KYES 5
ANCHORAGE

1-15-96

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KYES - PRES

Before the
Federal Communications Commission
Washington, D.C.

MM Docket No. 87-268

In the matter of:
Advanced Television Systems & Their Impact Upon the Existing Television Service

Comments of Fireweed Communications Corporation
KYES-(TV), Channel 5, Anchorage, Alaska

Fireweed Communications Corporation herewith offers its comments on the above Captioned NPRM and Third Notice of Inquiry.

Fireweed owns and operates KYES-(TV), UPN, channel 5, Anchorage, K06LY, Anchorage, K18CS, Anchorage, K06MF, Kenai, and holds a permit for K12OW, Wasilla, all Alaska.

In the Notice, the Commission set forth an objective to preserve a "...free, universal broadcasting service...", and said it has a "... long standing policy of fostering programming and ownership diversity." Fireweed believes certain proposals found in the Notice of Inquiry are squarely in conflict with those objectives, especially in regard to smaller, less populated television markets.

Assigning, for no cost, a second 6 MHz "digital" channel to existing TV broadcast stations has been called, by some, a giveaway. It is proposed that the second channel must be built and operated, or the station must, eventually, go off the air forever. Some giveaway.

Construction of a new TV transmission plant to broadcast digital signals, while continuing to operate an existing plant, gives TV viewers the option of buying a digital TV whenever they choose, instead of forcing them to buy a digital set when local stations change to digital. A giveaway is exactly what is proposed. This second channel will be a giveaway by the broadcast industry to TV set owners. A giveaway that will bankrupt small TV stations, reduce diversity of ownership, shrink or eliminate rural service [1] and force hundreds of urban LPTV stations off the air.

If the second "digital" channel is a "giveaway" by government to broadcasters, Fireweed does not want to be the recipient of this kind of government largess. This forced expropriation of

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1 See our analysis of Anchorage, below, as a typical small, largely rural market. It is simply impossible for the marketplace to support the acquisition and operation of a duplicate set of high powered UHF TV transmitters, and if it were possible, practical peak UHF power levels could not duplicate the coverage of some existing stations.

broadcasters money will enrich the pockets of large transmitter and antenna manufacturers, will save the public money while giving nothing back to broadcasters, and is sure to reduce diversity in the broadcast marketplace.

The language used in the debate leads many to believe the FCC would give away "new digital TV spectrum", as if some radio spectrum is digital and some is not. Spectrum is transparent to type of modulation, such as AM, FM, NTSC, SSB, or digital. KYES could go digital tomorrow for less than $10,000 by replacing our present NTSC exicter with a digital QAM exciter .

In view of the aforementioned political debate, Fireweed supports the proposal put forth by Richard Bogner that all existing TV stations convert to digital modulation at the same time on a certain date. Fireweed suggests January 1, 1998. Furthermore, Fireweed proposes that if it is found that the burden of purchasing digital TV sets is too great for the public to bear, then the government can pay broadcasters to build and operate new UHF NTSC channels.

Fireweed is very happy with the "digital" channel it now has. Please, keep the "giveaway" second channel. It is the last thing we want, or could use.

Jeremy Larisman January 15, 1996
President, Fireweed Communications Corporation
KYES-(TV), Anchorage, Alaska

Fireweed Communications Corporation

APPENDIX
Detailed Justification for No Second Channel.

Fireweed believes that shifting all TV broadcast to UHF will reduce availability of over the air TV signals to portions of rural America and cause many small market stations to become un-economic.

1. UHF conversion vs. Cost in small markets. KYES subscribes to a reporting service that informs us that total television advertising revenue in Anchorage is about $18 million per year. This total number of dollars supports five conventional commercial TV stations.[2] Dual

[2] Anchorage also has one VHF PBS, three UHF LPTV, and one low power Full Service (20 KW ERP) U.H.F. Home Shopping station. The proposed Anchorage HDTV/ATV UHF channels indicated our VHF stations moving to UHF would need very high power transmitters to obtain comparable coverage.

The ATV channel plan for Alaska filed in re Docket 87-268 assigns ATV average Effective radiated Powers as follows; KTUU, 4.1 MW, KTBY, 363KW, KYES, 66 KW, KAKM, 1.1 MW, KTVA, 66 KW, KIMO, 41 KW.

I used those powers, adjusted as follows. The power listed is average, but transmitters must reach peak ERP. Conventional NTSC transmissions average of about 40% of peak, but must still be rated for peak power. ATV will have peak powers about 7 dB higher, or 5 times greater than average.

Since the list was issued, KIMO has started constructing a 316 KW facility at the same site as KTUU. I adjusted KIMO to the same ATV ERP as KTUU. KYES has increased ERP to 100 KW from 6 KW. I adjusted KYES average ATV ERP to 1 MW to match the NTSC increase. I multiplied average ATV ERP times five to get ATV peak power. If the result exceed 10 MW, I assumed 10 MW was the limit. Thus peak power for channels 2,4,5,7,11,& 13 was10,1.06,5.48,5.71 and 10 megawatts. KTUU, KAKM, and KIMO will have reduced coverage.

KZXC, found on the list, doesn't exist. Total ERP for all stations is 32.19 megawatts. Assuming antenna gain is 15, and assuming the transmitters only consume as much power as they can produce, total electricity used for all stations will be 18,798 megawatt hours per year. At seven cents per kilowatt hour the total cost will be $1,315,000. This is about 7% of total market revenue.

Assuming a new $500,000 transmitter plant is leased at 10% effective interest for ten years with no-cost buy back at the end of term, monthly payments would be $6,607.54. Multiply

ATV/NTSC operation would cost at least $1,315,000 for all stations, or almost 12% of total market revenue. That total doesn't include studio, production, land for new towers, etc. Remember 12% revenue loss translates into a much larger profit loss. In small markets, profit is a much smaller percentage of total revenue than in large markets.

It has been claimed that transmission equipment is frequently replaced and that ATV costs can be built into ongoing budgets. However, as example, one locally family owned VHF station here, (not KYES) uses a 1950 era RCA BT10AL transmitter, and they have no plan to replace it. Forcing the station to get a new transmitter, antenna and tower, when it is not needed, may force the station off the air, or cause it to sell out to larger firms, reducing diversity.

Any claim UHF can achieve coverage parity is flawed. Our rural viewers watch TV in locations quite distant, over the horizon from our transmitter, or terrain shielded from our transmitters. KYES has had viewer reports more than 50 miles outside our grade B contour. In urban Anchorage there are many river valleys and mountains. UHF propagation produces more and deeper shadows. Translators are costly and consume spectrum, both for over the air use and for microwave delivery of program to the translator. Even if many more translators could be built and operated, there would be a net loss of spectrum. If less spectrum is available, there would be a net loss of service.

For example, KYES has two translators within the Anchorage city limits, and needs four more. The other Anchorage VHF commercial stations have translators in the Anchorage urban area. How many more would be needed given poorer UHF propagation?

Coverage outside of the urban area, now difficult to economically justify at VHF, may become impossible with the increased cost of UHF. Broadcast Auxiliary spectrum, now nearly full on some microwave paths used to feed translators would have to be vastly expanded to include more channels.[3] Otherwise, translators can't be built to replace coverage lost due to UHF transmission.

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that by five stations times 12 months and we get a total cash outflow of $369,452.40 for all Anchorage stations per year. Total ATV cash outflow for dual ATV/NTSC operation would be $849,000 for all Anchorage commercial VHF stations.

Adding estimated power and equipment cost we get a total annual charge for addition of ATV transmission of about $1,315,000, or 12% of total revenue in the market.

[3]All 6 Anchorage VHF broadcasters joined together to operate a multichannel translator in a community about 55 miles from Anchorage, where direct over the air reception is not possible. The long microwave path was only possible at 2 GHZ. All but one 2 GHz microwave channel was used. Much of the area served by the 100 watt VHF translators are well beyond the grade B contours. Moving the translators to UHF would be extremely costly, and might well require more sites just for these translators, and therefore more UHF and Auxiliary spectrum.

Many of our rural communities have fewer than 100 habitations, and are tens of miles from other communities. It will not be possible to build translators, and rent for these remote villages. The net result, even if we all build high power UHF transmitters, is that remote, western, rural residents will lose access to terrestrial TV service.

2. High power second channels are not necessary. About 80% of Anchorage, can be reached by a 1 KW UHF signal. Present day NTSC stations could file for, or purchase LPTV stations. The present LPTV rules could be amended to allow for more stations, especially since ATV stations are more tolerant to interference. ATV service could start on a small UHF transmitter, able to reach a large proportion of the population. After viewers have ATV receivers, a broadcaster could switch to ATV on the old, main transmitter, and place NTSC on the low power UHF transmitter. Later, the small, NTSC UHF transmitter could be shut down. Of course not all large market urban stations may get a new, or purchase a second LPTV station. No matter. If some digital signals are out there, people will have reason to buy digital TV sets.

Conversion of an NTSC transmitter is cheap and easy. Many transmitters, such as ours, are no more than gigantic linear power amplifiers. Whatever you put in the input comes out the antenna. In most cases an ATV exciter could replace the NTSC exciter.

3. A second channel may be unnecessary. As ATV/HDTV converters and sets come on the market subsequent to construction of ATV/HDTV stations in the large cities, we believe many sets will be marketed that get NTSC/ATV and HDTV modulation. The cost of adding NTSC to an ATV/HDTV set is small. A saw filter, a one chip decoder for the picture, and one for FM sound. Backwards compatibility will be inexpensive. In smaller markets such as ours, we might just switch to ATV one day, never needing a second channel. In any event, operation of a second channel should be voluntary.

4. Access to "free TV", Diversification of programming and ownership. Those laudable Commission goals might be furthered by requiring all second channels to be low power. If the Commission requires, or allows high power on all ATV facilities, then many small market Full services stations will have to sell out to afford the change, or might go off the air. LPTV stations, many of which now greatly add to the diversity of ownership and program content will be become homeless, and disappear. Reducing available spectrum for broadcasting TV, without consideration of LPTV and translator needs, will force LPTV broadcasters off the dial at the same time it cuts rural America off from regional news and information.

5. Consolidation. Repacking all TV stations into a corner of the UHF band is a neat spectrum marketing technique, but is not required in order to make broadcast spectrum available to other users. The FCC long ago set aside various TV channels in specific places for land mobile use. That policy could be continued. The costs of repacking are larger than the slight benefit in "spectrum marketing.".

6. Simulcasting. If stations are to have second channels, they should be LPTV stations

authorized under part 74 of the FCC rules, as modified to account for different ATV and NTSC interference characteristics. No changes in rules regarding simulcasting are required.

7. Conclusion We have shown, that Anchorage, a small, market, a UHF only transmission mandate will effectively reduce market gross revenue by over 12%, and reduce coverage in rural areas. The net result will be great loss of service to the public.

Therefore, Fireweed urges the Commission adopt rules making operation of second, low powered channels voluntary under existing FCC rules now found in part 74. Conversion of the existing channel to ATV would be at a time to be determined by the Commission.